

IOWA COMMUNICATIONS NETWORK

CONSTRUCTION DRAWINGS FOR:

RELOCATION OF ICN AND AUREON FIBER ALONG THE NORTH RIGHT-OF-WAY OF HIGHWAY 34 BETWEEN HWY48 & EASTERN AVE (MONTGOMERY CO.)

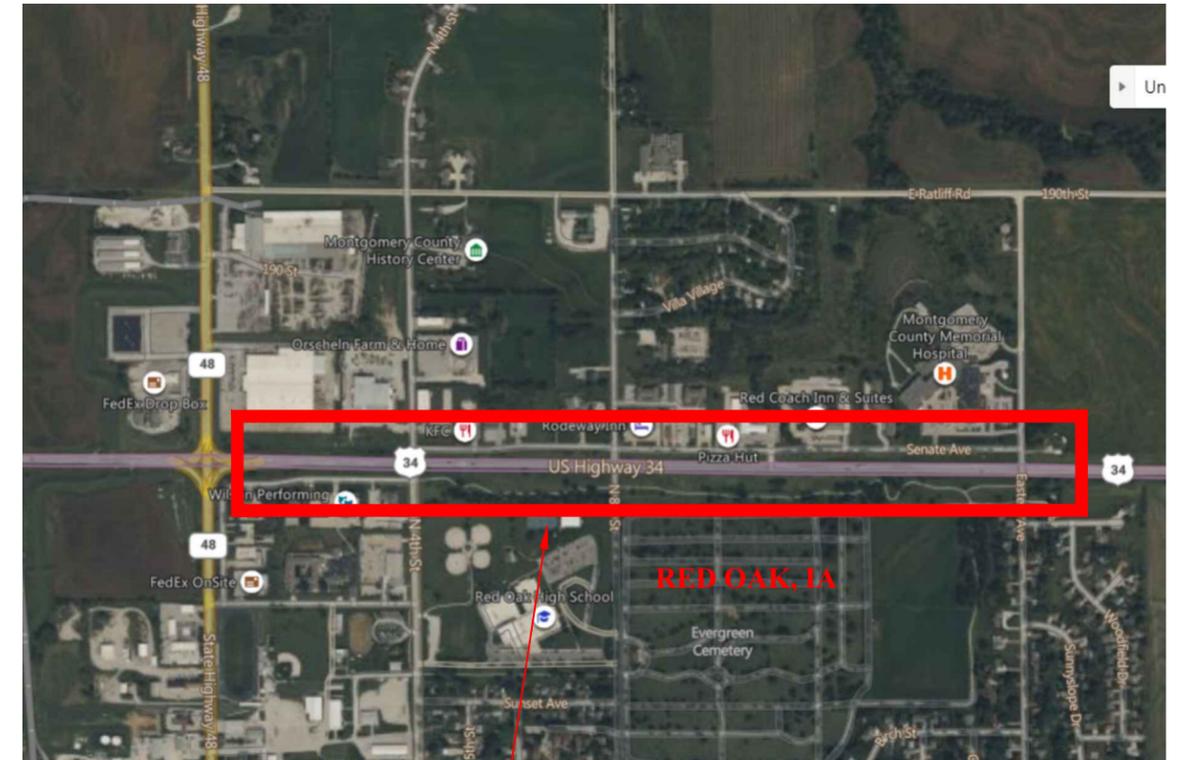
PROJECT OVERVIEW:

EXISTING ICN AND AUREON CABLES ARE IN CONFLICT OF HIGHWAY 34 IMPROVEMENT PROJECT IN RED OAK. ICN AND AUREON CONDUITS WILL BE INCORPORATED TOGETHER IN THIS CABLE RELOCATE PLAN BUT WILL BE COMPLETELY SEPARATED WITHIN THEIR OWN FACILITIES. ICN HAS TWO SEPARATE CABLES THAT ENTER SWCC BUILDING FROM HIGHWAY 34. RELOCATE WILL CONSIST OF ONE SEPARATE CONDUIT FOR EACH UTILITY PLACED TOGETHER FROM END TO END. AUREON WILL ONLY REQUIRE HANDHOLE AND HDPE PLACEMENT. CONTRACTOR TO PICKUP UP AUREON HANDHOLES.

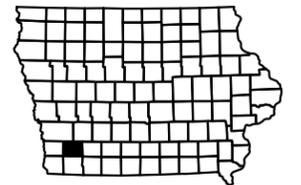
RELOCATION WILL REQUIRE:

- EXPOSE A TOTAL OF 200-FT OF EXISTING ICN CABLE FOR SPLICE TAILS.
- PLACEMENT OF NINE (9) 24"x36"x30" TIER 22 HANDHOLES (5-ICN & 4-AUREON), SET WITH LIDS AT OR JUST BELOW GRADE
- PLACEMENT OF 5460-FT± (ICN) & 5200-FT± (AUREON) OF MIN OF 1.25-IN HDPE CONDUITS ALONG SIDE EACH OTHER BETWEEN NEW HANDHOLES.
- COMBINED TOTAL OF 10,660-FT OF 1.25-IN HDPE
- ICN CABLE PULL TOTAL: 5860-FT (WESTBOUND 1180-FT & EASTBOUND 4680-FT)
- AUREON TO PULL IN THEIR OWN CABLE AND EXPOSE THEIR EXISTING CABLE TAILS.
- AUREON HDPE MUST HAVE PULL ROPE INSTALLED FROM END TO END.
- PLACE HDPE 4-5 FT DEEP IN ALL AREAS.
- COORDINATE WITH SPLICER TO MINIMIZE TIME TRENCHES ARE OPEN
- SECURELY FENCE OFF ANY OPEN TRENCHES
- AFTER SPLICING CUT-OVER, BACKFILL AND TAMP ALL EXCAVATED AREAS
- RESTORE RIGHT-OF-WAY PER DOT REQUIREMENTS, INCLUDING RE-SEEDING WHERE NEEDED
- SET ICN WARNING MARKERS AT EDGE OF RIGHT-OF-WAY LINE, PERPENDICULAR TO HANDHOLES

PROJECT LOCATION



PROJECT LOCATION



CONTACTS*

COMPANY	TYPE	NAME	PHONE	EMAIL
Iowa Communications Network (ICN)	OSP Engineer	Chris Harris	515-725-8925	chris.harris@iowa.gov
Iowa Communications Network (ICN)	ICN Materials	Paul Damage	515-725-4749	paul.damage@iowa.gov
Fiber Network Services (FNS)	Splicing Coordination	NOC OSP	515-725-7423	icnnocosp@iowa.gov
Aureon	OSP Engineer	Jeff Klocko	515-830-0445	Jeff.Klocko@aureon.com

*THIS CONTACT LIST IS NOT ALL-INCLUSIVE. CONTRACTOR IS RESPONSIBLE FOR REQUESTING LOCATES OF ALL UTILITIES.

SHEET INDEX

1	TITLE PAGE (THIS SHEET)	6	CONSTRUCTION DRAWING PAGE 3
2	ICN GENERAL NOTES	7	CONSTRUCTION DRAWING PAGE 4
3	MATERIALS	8	
4	CONSTRUCTION DRAWING PAGE 1	9	
5	CONSTRUCTION DRAWING PAGE 2	10	



ICN AND AUREON CABLE RELO
ALONG HWY 34 IN RED OAK

IOWA COMMUNICATIONS NETWORK
400 EAST 14TH STREET
GRIMES STATE OFFICE BUILDING
DES MOINES, IOWA 50319
ICN © 2021. COPY WITH PERMISSION

STANDARD INSTALLATION REQUIREMENTS:

GENERAL REQUIREMENTS:

1. THE CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES.
2. PROVIDE THE OWNERS OF ANY NATURAL GAS UTILITY 48 HOURS ADVANCE NOTICE THAT WORK IS SCHEDULED IN THE VICINITY OF THEIR LINES/MAINS SO THAT THEY CAN PROVIDE STANDBY AND PROTECT SERVICES.
3. MAINTAIN PROOF OF NOTIFICATION TO AND RECEIPT OF NOTIFICATION BY THE GAS UTILITY.
4. PERMITS AND COORDINATION
 - 4.1. SECURE ALL NECESSARY STATE AND LOCAL (CITY, COUNTY, ETC.) PERMITS, PUBLIC OR PRIVATE EASEMENTS, FACILITY PERMITS, USAGE PERMITS, AND ANY OTHER PERMIT REQUIRED BY AN AUTHORITY HAVING JURISDICTION (AHJ).
 - 4.2. ICN WILL OBTAIN AND PROVIDE COPIES OF IDOT PERMITS.
 - 4.3. IF PERMITS ARE REQUIRED TO BE IN THE NAME OF THE OWNER RATHER THAN THE CONTRACTOR, THE CONTRACTOR SHALL PREPARE THE PERMIT FOR THE OWNER'S SIGNATURE.
 - 4.4. COORDINATE INSTALLATION WITH ALL OWNERS AND AHJ OVER THE ROUTE, THE FIBER, RIGHT-OF-WAY AND BUILDINGS IN WHICH END POINTS WILL BE LOCATED.
 - 4.5. FAILURE TO COORDINATE WITH THE AHJ AND TO OBTAIN ALL NECESSARY PERMITS IS AT THE PERIL OF THE CONTRACTOR.
 - 4.6. RIGHT-OF-WAY PERMIT FEES ARE AN AUTHORIZED EXTRA ABOVE THE QUOTED BID PRICE. EXCAVATION PERMITS SHALL BE BY THE CONTRACTOR.
 - 4.7. ENSURE ALL FACILITIES ARE PLACED WITHIN THE PUBLIC RIGHT-OF-WAY.
5. ENSURE THAT PERSONNEL WORKING IN THE ROW ARE EQUIPPED WITH AND USE PROPER SAFETY EQUIPMENT AND ATTIRE.
6. ALL TOOLS AND TEST EQUIPMENT REQUIRED TO DO A PROJECT SHALL BE PROVIDED BY THE CONTRACTOR OR ITS SUBCONTRACTOR(S). SECURITY OF TOOLS AND TEST EQUIPMENT SHALL BE THE RESPONSIBILITY OF EACH WORKER. THE ICN SHALL NOT BE RESPONSIBLE FOR THE SECURITY OF ANY PROPERTY LEFT ON ICN'S PROPERTY OR ON PROPERTY CONTROLLED BY THE ICN OR THE STATE OF IOWA.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTRUCTING ITS EMPLOYEES IN SAFETY MEASURES CONSIDERED APPROPRIATE FOR THE JOB. IN ADDITION, THE CONTRACTOR SHALL NOT PERMIT PLACING OR USE OF TOOLS OR MATERIALS IN TRAFFIC LANES OR OTHER LOCATIONS. THE TOOLS OR MATERIALS SHALL NOT BE PLACED IN SUCH A MANNER SO AS TO CREATE SAFETY HAZARDS TO STATE EMPLOYEES, CONTRACTING AGENCY EMPLOYEES, THE PUBLIC OR THEMSELVES.
8. EXCAVATIONS AND TRENCHES: THE ICN REQUIRES ALL OPEN EXCAVATIONS OR TRENCHES TO BE MONITORED AND ATTENDED TO DURING CONSTRUCTION PER. THE ICN REQUIRES ALL OPEN EXCAVATIONS AND TRENCHES BACKFILLED THE SAME DAY. IF THE CONTRACTOR IS REQUIRED TO LEAVE AN EXCAVATION OR TRENCH OPEN, THEN THE CONTRACTOR SHALL PROPERLY FENCE AND/OR COVER THE EXCAVATION FOR SAFETY. CONTRACTOR SHALL FOLLOW ALL OSHA REQUIREMENTS FOR EXCAVATION AND TRENCH SAFETY.
9. CONTRACTOR AND ITS EMPLOYEES SHALL COMPLY WITH ALL OSHA REGULATIONS. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE AND FEDERAL LAWS.
10. CONTRACTOR SHALL COMPLY WITH ALL IOWA ONE CALL REQUIREMENTS AS PROVIDED BY IOWA CODE, CHAPTER 480.
11. PROVIDE ALL LABOR AND SUPERVISION FOR THE PROJECT.
12. PROVIDE AND INSTALL MATERIALS NEEDED TO RESULT IN A FULLY FUNCTIONAL SYSTEM MEETING ICN STANDARDS, WHETHER OR NOT THE MATERIALS OR METHODS ARE SPECIFICALLY MENTIONED IN THIS DOCUMENT. SEE THE LIST OF ICN-FURNISHED MATERIALS.
13. INSTALL CABLE ROUTE MARKERS FURNISHED BY ICN. WHERE POSSIBLE, INSTALL MARKERS ADJACENT TO POLES, BUILDINGS OR IN OTHER PROTECTED AREAS.
14. A COPY OF THIS SCOPE OF WORK AND THE ENGINEERING PLAN FOR THIS PROJECT SHALL BE ON SITE AND AVAILABLE ANY TIME WORK IS BEING PERFORMED. FAILURE TO HAVE THE REQUIRED DOCUMENTS ON SITE MAY RESULT IN ICN REQUIRING THE CONTRACTOR TO STOP WORKING UNTIL THE REQUIRED DOCUMENTS ARE ON-SITE.
15. SUBCONTRACTORS SHALL MEET THE SAME QUALIFICATIONS STATED FOR CONTRACTORS. CONTRACTOR SHALL OBTAIN APPROVAL OF THE CONTRACTING AGENCY'S PROJECT MANAGER PRIOR TO USING A SUBCONTRACTOR ON ANY PROJECT.
16. RESTORE ALL DAMAGE TO PRIVATE PROPERTY, RIGHT-OF-WAY, ICN PROPERTY, AND ANY OTHER PROPERTY DAMAGED IN THE COURSE OF THE WORK.
 - 16.1. ANY DISRUPTION OF GRASS IN AN INDIVIDUAL'S YARD OR IN A PRIVATE MAINTAINED AREA OF THE PUBLIC RIGHT OF WAY (THE AREA BETWEEN THE SIDEWALK AND THE STREET CURB) MUST BE RESTORED THROUGH RE-SODDING. ANY DISRUPTION OF THE GRASS IN THE MEDIAN WAY OR AN UNIMPROVED SHOULDER MUST BE RESTORED EITHER THROUGH RE-SODDING OR RE-SEEDING AS REQUIRED BY THE ROW OWNER.
 - 16.2. AREAS SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.
 - 16.3. DIRT SHALL BE MECHANICALLY COMPACTED AROUND HANDHOLES AND PITS.
 - 16.4. LAWNS SHALL BE SODDED WITH LIKE GRASS.
 - 16.5. CONTRACTOR IS RESPONSIBLE FOR WATERING THE SOD UNTIL IT HAS KNITTED TO THE GROUND BENEATH.
 - 16.6. ALL DEBRIS SHALL BE REMOVED FROM THE CONSTRUCTION AREAS INCLUDING BUT NOT LIMITED TO: CONSTRUCTION MATERIALS, TRASH, LARGE OBJECTS OR STONES WITHIN BACKFILLED AREAS, ETC.

DUCT INSTALLATION REQUIREMENTS

1. HDPE DUCT SHALL BE NO LESS THAN 48 INCHES DEEP.
2. DUCT SHALL BE INSTALLED IN THE PUBLIC RIGHT-OF-WAY.
3. WHEN CROSSING A HIGHWAY IN DOT RIGHT-OF-WAY, DUCT SHALL BE NO LESS THAN 48 INCHES BELOW GRADE UNDER THE ROADWAY AND SHOULDERS. HDPE MAY BE USED UNDER THE ROADWAY AND SHOULDERS IF INSTALLED AT A MINIMUM DEPTH OF 48".
4. SHOULD IT BE NECESSARY TO CROSS PRIVATE PROPERTY, THE CONTRACTOR MAY APPLY TO THE ICN FOR AN EXCEPTION, AND REQUEST PERMISSION TO SECURE AN EASEMENT. THE EASEMENT IS REQUIRED TO BE IN THE NAME OF ICN AND THE CONTRACTOR SHALL HAVE THE EASEMENT PREPARED BY A LAND SURVEYOR LICENSED IN THE STATE OF IOWA. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES UNLESS PREVIOUSLY AUTHORIZED BY THE ICN.
5. AT THE CONCLUSION OF THE PROJECT, PROVIDE AND LEAVE A PULL ROPE IN ALL DUCTS, CONDUITS AND PATHWAYS, INCLUDING INDOOR, OUTDOOR, NEW AND EXISTING.
6. DIRT SHALL BE MECHANICALLY COMPACTED AT ALL DUCT SPLICES, BORE PITS AND AROUND HANDHOLES.
7. GROUND SHALL BE RESTORED TO THE CONDITION FOUND PRIOR TO CONSTRUCTION AND DEBRIS REMOVED PRIOR TO SODDING OR SEEDING.
8. ALL CONDUITS SHALL BE PLUGGED VIA DUCT SEAL OR OTHER METHOD UPON COMPLETION OF CABLE INSTALLATION.
9. IF SCHEDULE 40 PVC CONDUIT IS UTILIZED, ALL ANGLES (45, 90 DEGREE OR OTHER) REQUIRE FITTINGS TO LONG SWEEP TO ACCOMMODATE MINIMUM CABLE BEND RADIUS.
10. THE ICN REQUIRES PICTURES BY THE CONTRACTOR AND/OR ON- SITE INSPECTION BY ICN STAFF PRIOR TO COMPLETION OF THE PROJECT WHERE PIPE AND FITTINGS ARE NOT EXPOSED; I.E. UNDERGROUND, BEHIND A WALL, ETC.

HANDHOLE REQUIREMENTS

1. INSTALL HANDHOLES SO THAT THE LID IS LEVEL AND FLUSH WITH THE SURROUNDING NATURAL GRADE. THE LID SHALL NOT EXTEND ABOVE THE SURROUNDING NATURAL GRADE.
2. PROVIDE 1/2" OPENING HARDWARE CLOTH TYPE SCREEN WIRE BELOW THE HANDHOLE.
3. PROVIDE 5-6 INCHES OF 3/4" CRUSHED ROCK BELOW THE HANDHOLE. ROCK SHALL BE COMPACTED. GRAVEL SHALL EXTEND A MINIMUM OF 6 INCHES BEYOND THE OUTSIDE WALLS OF THE HANDHOLE. DO NOT USE PEA GRAVEL OR OTHER ROUND STONE.
4. DO NOT PLACE GRAVEL INSIDE HANDHOLE ABOVE THE HARDWARE CLOTH.
5. CONDUIT SHALL EXTEND A MINIMUM OF 6" ABOVE THE HARDWARE CLOTH/GRAVEL.
6. FAILURE OF THE CONTRACTOR TO INSTALL HANDHOLES AS SPECIFIED WILL CAUSE THE CONTRACTOR TO RETURN AND RE-INSTALL THE HANDHOLE ACCORDING TO THIS SPECIFICATION BEFORE PAYMENT FOR THE PROJECT IS MADE.
7. HANDHOLE INSTALLATIONS SHALL FOLLOW ICN STANDARD TYPICAL INSTALLATION; SEE TYPICAL DRAWING.

FIBER INSTALLATION REQUIREMENTS

1. INSTALL FIBER ACCORDING TO INDUSTRY "BEST PRACTICES".
2. THE CONTRACTOR SHALL NOT VIOLATE THE MANUFACTURER'S MINIMUM INSTALLATION BEND RADIUS WHEN THE CABLE IS UNDER TENSION, OR THE MINIMUM INSTALLED BEND RADIUS.
3. TO PREVENT EXCEEDING THE MANUFACTURER'S MAXIMUM PULLING TENSION DURING INSTALLATION OF THE FIBER OPTIC CABLE, THE CONTRACTOR SHALL USE A "BREAK-AWAY" PULLING SWIVEL WHEN INSTALLING CABLE.
4. THE "BREAK-AWAY" FUNCTION SHALL ACTIVATE AT OR BELOW THE MAXIMUM PULLING TENSION SPECIFIED BY THE CABLE MANUFACTURER.
5. THE CONTRACTOR SHALL TEST ALL STRANDS OF THE FIBER, ON THE REEL, PRIOR TO BEGINNING FIBER INSTALLATION. CONFIRM THAT ALL STRANDS MEET MANUFACTURER'S LOSS SPECIFICATIONS.
6. THE CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
7. SLACK LOOPS IN HANDHOLES SHALL BE COILED, INSTALLED, AND SECURED TO AVOID DAMAGE TO THE COIL AND NOT INTERFERE WITH LIDS.
8. SLACK LOOPS AT SPLICES SHALL BE COILED TO MATCH THE EXISTING FIBER CABLE TAILS AND ALLOWANCE FOR SPLICE PREPARATION.
9. ICN FIBER IN ALL HANDHOLES SHALL BE LABELED WITH ICN WRAP AROUND CABLE TAGS OR OTHER LABELED CABLE TAGS.

BUILDING ENTRY REQUIREMENTS

1. WEATHER-SEAL ALL PENETRATIONS.
2. USE MORTAR OR SIMILAR CEMENT TO SEAL PENETRATION OF BRICK OR CEMENT BLOCK.
3. FIRESTOP PENETRATIONS OF ANY FIRE-RATED FLOOR, WALL OR CEILING.
4. REPLACE THE FIRESTOP MATERIAL IN ANY EXISTING FIRESTOPPED PENETRATION USED BY THE CONTRACTOR.
5. ALL OUTDOOR CONDUITS, OF ANY LENGTH, SHALL BE GALVANIZED IRON PIPE (GIP). EMT, PVC AND PLASTIC ARE PROHIBITED.
6. IMMEDIATELY UPON INSTALLATION, SEAL THE ENDS OF ALL DUCTS WITH DUCT SEAL OR EXPANSION FOAM TO PREVENT SILTATION OR FILLING WITH MOISTURE. THIS APPLIES TO BOTH NEW AND EXISTING DUCTS.
7. AT THE CONCLUSION OF THE PROJECT, ENSURE THAT A PULL ROPE IS LEFT IN ALL PATHWAYS, BOTH INSIDE AND OUTSIDE, NEW AND EXISTING.

LOCATE FACILITY REQUIREMENTS

1. TRACER WIRE SHALL BE CONTINUOUS.
2. SPLICES IN THE TRACER WIRE ARE NOT ALLOWED. IF TRACER WIRE IS ACCIDENTALLY SEVERED, REQUEST PERMISSION FROM ICN TO SPLICE.
3. WIRE SPLICES ONLY IN HANDHOLES.
4. USE EITHER AN EPOXY SPLICE KIT, SCOTCH 3M 3832 OR A MOLEX PERMASEAL BUTT SPLICE. 10-12 GA. SPLICE MATERIALS SHALL BE DESIGNED FOR UNDERGROUND APPLICATIONS.
5. LEAVE THE WIRE SPLICE VISIBLE IN THE HANDHOLE.
6. ROUTE A GROUND WIRE FROM THE GROUND INSIDE THE BUILDING, THROUGH THE ENTRY TO THE TII 163 TERMINAL.
7. SECURE ALL RISER CONDUITS WITH 3 EACH TWO-HOLE CONDUIT STRAPS.
8. WIRE THE PEDESTAL/TERMINAL SO THAT LOCATES MAY BE PERFORMED IN ANY DIRECTION AND FROM THE FAR END.
9. DO NOT LEAVE ANY EXPOSED TRACER WIRE OR GROUND WIRE.
10. PERMANENTLY GROUND THE TRACER WIRE AT THE HANDHOLE ON THE FURNISHED GROUND ROD.
11. AT THE CONCLUSION OF THE PROJECT LEAVE THE TRACER WIRE SHIELD SHORTED TO GROUND IN THE LOCATE TERMINAL.
12. USE TRACER WIRE THAT IS RATED FOR DIRECT BURIAL WHERE REQUIRED. TRACER WIRE SHALL BE #12 AWG, SOLID HF CCS 30 MIL HDPE HIGH FLEX TRACER WIRE: EITHER SOLID COPPER OR COPPER CLAD STEEL.
13. LABEL ALL WIRES IN THE LOCATE TERMINAL/PEDESTAL/TRIVIEW. (I.E. "GROUND", "FACING DMACC", "FACING NORTH" ETC.)
14. FAILURE TO LABEL THE LOCATE WIRES WILL CAUSE THE CONTRACTOR TO RETURN AND PROPERLY LABEL THE WIRES BEFORE PAYMENT FOR THE PROJECT IS MADE.
15. BOND TRACER WIRE(S) WITHIN SPLICE ENCLOSURES UTILIZING A 3M 4460-DiFO SHIELD BONDING KIT.
16. ROUTE TRACER WIRE(S) OUT OF SPLICE ENCLOSURE THROUGH A SINGLE PORT UTILIZING A FOSC CLOSURE SEALING KIT.
17. AT SPLICE LOCATIONS WITH NO LOCATE PEDESTAL, TRACER WIRES SHALL BE BONDED TOGETHER, WITHIN THE SPLICE ENCLOSURE.
18. AT EACH END OF ANY TRACER WIRE, USE APPROPRIATE-SIZED RING TERMINAL (CRIMP) CONNECTORS USING APPROPRIATE CRIMP TOOL; OR CREATE A WIRE EYELET AS PER TYPICAL INSTALLATION OF TRI-VIEW LOCATE PEDESTAL DETAIL.

DELIVERABLES/ACCEPTANCE:

1. CONTRACTOR SHALL PROVIDE CONSTRUCTION REDLINE AS-BUILTS WITH:
 - 1.1. OFFSETS TO FIXED OBJECTS TO THE CABLE/CONDUIT RUNNING LINE, HANDHOLES AND NEW FACILITIES.
 - 1.2. METER MARKS OF CABLE INSTALLATIONS AT HANDHOLE ENTRY/EXIT, SPLICE LOCATIONS, BUILDING ENTRIES, ETC.
 - 1.3. DEPTHS OF CABLE AND/OR CONDUIT INSTALLATION.
 - 1.4. ONE ORIGINAL SET OF AS-BUILT DRAWINGS MUST BE PROVIDED WITHIN TWO (2) WEEKS AFTER COMPLETION OF CONSTRUCTION FOR THE ICN MANAGEMENT RECORDS. REDLINE AS-BUILT DRAWINGS MUST BE COMPLETE.
2. CONTRACTOR SHALL PROVIDE SPLICING REDLINE OF ALL SPLICING COMPLETED AND VALIDATION THAT THE SPLICE PLAN WAS FOLLOWED.
3. CONTRACTOR IS RESPONSIBLE TO LOCATE FIBER UNTIL ACCEPTANCE BY THE ICN. ACCEPTANCE INCLUDES:
 - 3.1. SUBMISSION OF CONSTRUCTION AND SPLICING RED LINE DRAWINGS BY CONTRACTOR.
 - 3.2. ASSIGNMENT OF LINK NUMBER BY THE ICN (IF APPLICABLE).
 - 3.3. SUBMISSION OF FINAL AS BUILT DRAWING BY THE ICN TO THE ICN NETWORK MAINTENANCE PROVIDER.
 - 3.4. SUBMISSION TO IOWA ONE CALL AND THE ICN NETWORK MAINTENANCE PROVIDER'S CONTRACT LOCATER.
 - 3.5. THE MEASUREMENTS IN THE STATEMENT OF WORK ARE ESTIMATES AND NEED TO BE VERIFIED BY THE CONTRACTOR.
4. ONLY WRITTEN MODIFICATIONS TO THIS SCOPE OF WORK ARE BINDING - VERBAL CHANGES TO THIS SCOPE OF WORK BY ANY PERSON OR PERSONS ARE NOT BINDING, UNLESS CONFIRMED IN WRITING.
5. FINAL PAYMENT WILL NOT BE PROCESSED UNTIL ALL DELIVERABLES ARE RECEIVED AND ACCEPTED.



ICN AND AUREON CABLE RELO ALONG HWY 34 IN RED OAK	
IOWA COMMUNICATIONS NETWORK 400 EAST 14TH STREET GRIMES STATE OFFICE BUILDING DES MOINES, IOWA 50319 ICN © 2021. COPY WITH PERMISSION	

ITEM	ICN PART NUMBER	QTY	NOTES
ICN PROVIDED MATERIALS			
TRIVIEW Test Station w/ Isolever 72" ORANGE (with 3 ICN decals applied) (Walker)	TVT172OB-EM9125	1	
TriView Warning Marker 78" with Orange Cap (with 3 decals - part number SD-9007K)	TVFL7800	4	
CONTRACTOR PROVIDED MATERIALS*			
X			
HDPE Conduit (13.5 SDR) - ICN	Min. 1.25-IN	5460'	
HDPE Conduit (13.5 SDR) - Aureon	Min. 1.25-IN	5200'	
48 strand Armored SM fiber	West Bound ICN Cable	1500'	
48 strand Armored SM fiber	East Bound ICN Cable	5200'	
Erico 1/2" x 6' Ground Rod (Graybar)	611360	1	
Burndy 1/2" Ground Rod Clamp (Anixter)	GRC12	1	
6 AWG Bare Solid Copper Ground Wire (Graybar) - 315' reel		20'	
24" X 36" X 30" TD handhole w/ 20T lid TIER 15 (Martin or New Basis)		5	
Muletape, 1250# rated, 1/2" wide 5000'	Muletape - Aureon HDPE	5200'	

ESTIMATE OF QUANTITIES			
ITEM NO.	ITEM	UNIT	PLANNED TOTOAL
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

NOTE ON HDPE CONDUIT AND SPLICES:

- HDPE SHALL BE ORANGE SMOOTH WALL SDR 13.5
- DUCT SPLICES SHALL BE MADE OF THE FOLLOWING (IN ORDER OF PREFERENCE.)
 - ELECTROFUSION
 - CRIMP ON
 - CLAMP ON / BOLT ON (SPLIT COUPLINGS)
 - PUSH ON
- ALL SPLICES SHALL BE AIR AND WATER TIGHT**
- DUCT SPLICES SHALL BE OF A TYPE MADE SPECIFICALLY FOR JOINING HDPE CONDUIT
- ALL DUCT SPLICES SHALL BE MADE IN SUCH MANNER AS TO ALLOW CONTINUOUS PULLING OF CABLE THROUGH DUCT.

NOTE ON OSP FIBER CABLE

Single Mode, Single Armor, Gel Free, Loose Tube OSP cable (12-strand minimum, refer to Materials)
 Tensile Strength: 600 lb short term
 Attenuation: 0.35/0.25 dB at 1310/1440 nm

NOTE ON HANDHOLE(S):

Poly (Bulk, e.g.) 24"x36"x36" Tier 22
 Polymer Concrete (Quazite, New Basis, Martin, e.g.) 24"x36"x30" Tier 15

***NOTE ON CONTRACTOR PROVIDED MATERIAL(S):**

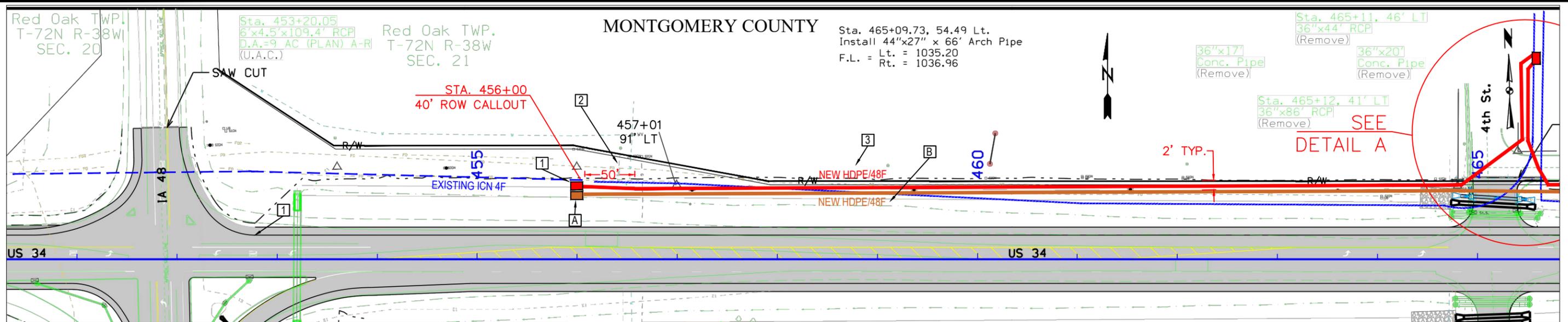
Contractor shall supply all other materials required for proper installation, including but not limited to: HDPE, Duct Splices, Grounding and Tracer Wires, Rock, Wire Mesh, etc.

ANY EXCEPTIONS MUST BE AGREED UPON IN WRITING PRIOR TO CONSTRUCTION.



ICN AND AUREON CABLE RELO
 ALONG HWY 34 IN RED OAK

IOWA COMMUNICATIONS NETWORK
 400 EAST 14TH STREET
 GRIMES STATE OFFICE BUILDING
 DES MOINES, IOWA 50319
 ICN © 2021, COPY WITH PERMISSION



ICN NOTES:

1. STA. 456+00: PLACE 24x36x30 HANDHOLE WITH LID AT GRADE. START PLACEMENT OF NEW 1.25-IN HDPE. (SPlice POINT)
2. STA. 456+00 TO 456+50: EXPOSE 50-FT OF LIVE ICN CABLE FOR SPLICE TAIL.
3. STA. 456+00 TO 465+50 (80-FT NORTH OF SENATE AVE): PLACEMENT OF NEW HDPE APPROX. 1030-FT FROM HH1 TO HH4 AND PULL IN NEW 48F FOR WEST BOUND CABLE. (ADDITIONAL 140-FT HDPE TO THE NORTH)
4. STA. 465+50 (80-FT NORTH OF SENATE AVE): PLACE 24x36x30 HANDHOLE WITH LID AT GRADE. NEW WESTBOUND AND EASTBOUND HDPEs TO BROUGHT INTO NEW HANDHOLE. (NEW 4-WAY ICN SPLICE POINT) - (LOCATE POINT).
5. EXPOSE 50-FT OF THE EASTBOUND & WESTBOUND LIVE ICN CABLES FOR SPLICE TAIL (100-FT TOTAL).
6. STA. 465+50 TO 472+50: START OF EASTBOUND HDPE PLACEMENT. (ADDITIONAL 120-FT HDPE TO THE NORTH)

AUREON NOTES:

- A. STA. 456+00: PLACE 24x36x30 HANDHOLE WITH LID AT GRADE. START PLACEMENT OF NEW 1.25-IN HDPE.
- B. STA. 456+00 TO 472+50: PLACEMENT OF NEW 1.25-IN HDPE APPROX. 1650-FT.

*****ICN AND AUREON FACILITIES WILL BE INCORPORATED TOGETHER IN THIS RELOCATE PROJECT BUT WILL BE COMPLETELY SEPARATED WITHIN THEIR OWN FACILITIES.**

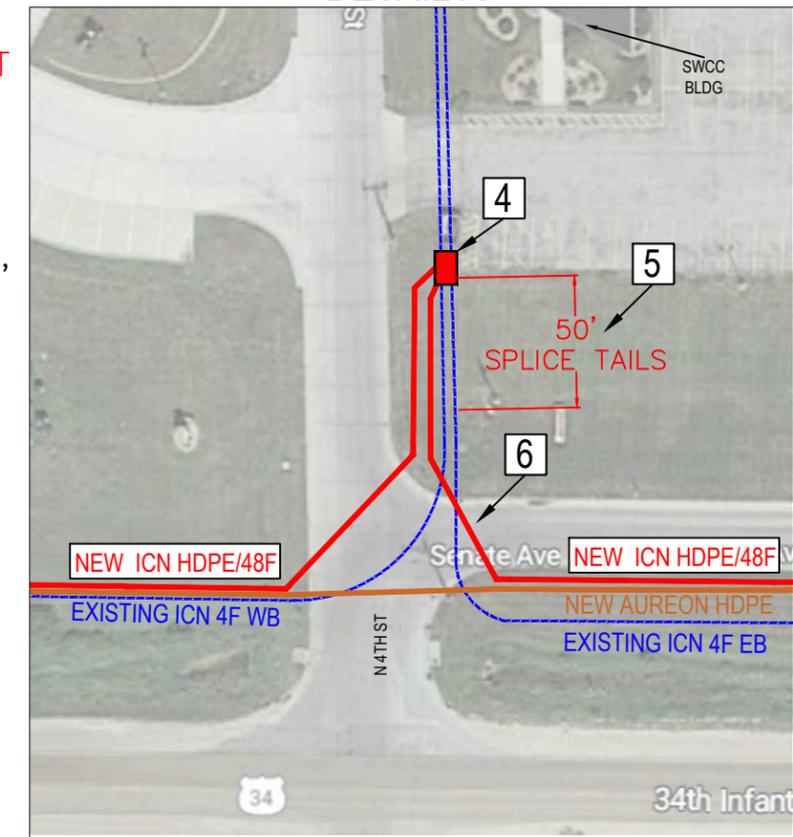
CONDUIT NOTES:

- HDPE SHALL BE ORANGE SMOOTH WALL SDR 13.5, MINIMUM 1.25-IN
- **AUREON HDPE - MUST HAVE PULL ROPE INSTALLED END TO END (5200-FT).**
- PLACE 4 TO 5 FEET DEEP IN ALL AREAS & 2-FROM NEW ROW.
- PULL HDPE INTO HANDHOLES PER TYPICAL DRAWING
- TOTAL ICN HDPE: 5460-FT
- TOTAL AUREON HDPE: 5200-FT

CABLE NOTES:

- ICN TOTAL CABLE PULL: 5785-FT INCLUDING SLACK (WESTBOUND-1180-FT & EASTBOUND 4680-FT)
- AUREON TO PULL IN THEIR OWN CABLE
- ASSIST HH'S LEAVE 50-FT COILS
- SPLICE POINT HH'S LEAVE 75-FT COILS

DETAIL A



LEGEND	
PROPOSED AUREON HANDHOLE	EXISTING ICN FIBER
PROPOSED AUREON DUCT	PROPOSED ICN DUCT
	PROPOSED ICN HANDHOLE
	TO BE ABANDONED
	RIGHT-OF-WAY



ICN AND AUREON RELO RED OAK - HWY 34			<p>IOWA COMMUNICATIONS NETWORK 400 EAST 14TH STREET GRIMES STATE OFFICE BUILDING DES MOINES, IOWA 50319 ICN © 2021. COPY WITH PERMISSION</p>
1	CABLE RELO	3-30-23	
2			
3			
4			

MONTGOMERY COUNTY

Red Oak TWP.
T-72N R-38W
SEC. 21

36"x735'
Plastic
(Remove)

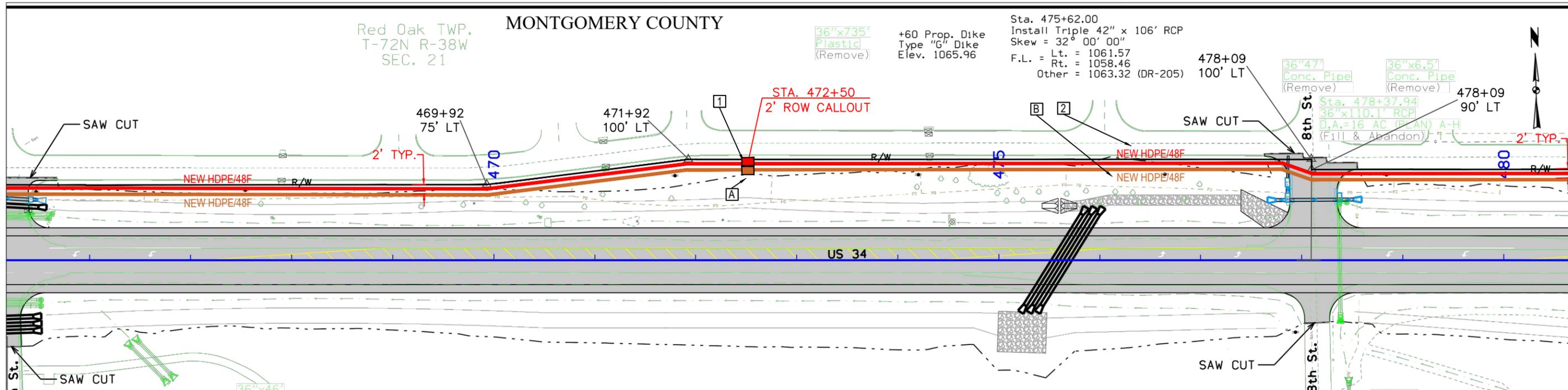
+60 Prop. Dike
Type "G" Dike
Elev. 1065.96

Sta. 475+62.00
Install Triple 42" x 106' RCP
Skew = 32° 00' 00"
F.L. = Lt. = 1061.57
Rt. = 1058.46
Other = 1063.32 (DR-205)

36"x47'
Conc. Pipe
(Remove)

36"x6.5'
Conc. Pipe
(Remove)

Sta. 478+37.94
36"x110.1' RCP
D.A.=16 AC (PLAN) A-H
(Fill & Abandon)



ICN NOTES:

1. A. STA. 472+50: PLACE 24x36x30 HANDHOLE WITH LID AT GRADE.
2. STA. 472+50 TO 492+00: PLACEMENT OF EASTBOUND HDPE

AUREON NOTES:

- A. STA. 472+50: PLACE 24x36x30 HANDHOLE WITH LID AT GRADE.
- B. STA. 472+50 TO 492+00: PLACEMENT OF EASTBOUND HDPE

***ICN AND AUREON FACILITIES WILL BE INCORPORATED TOGETHER IN THIS RELOCATE PROJECT BUT WILL BE COMPLETELY SEPARATED WITHIN THEIR OWN FACILITIES.

CONDUIT NOTES:

- HDPE SHALL BE ORANGE SMOOTH WALL SDR 13.5, MINIMUM 1.25-IN
- **AUREON HDPE – MUST HAVE PULL ROPE INSTALLED END TO END (5200-FT).**
- PLACE 4 TO 5 FEET DEEP IN ALL AREAS & 2-FT FROM NEW ROW
- PULL HDPE INTO HANDHOLES PER TYPICAL DRAWING
- TOTAL ICN HDPE: 5460-FT
- TOTAL AUREON HDPE: 5200-FT

CABLE NOTES:

- ICN TOTAL CABLE PULL: 5785-FT INCLUDING SLACK (WESTBOUND-1180-FT & EASTBOUND 4680-FT)
- AUREON TO PULL IN THEIR OWN CABLE
- ASSIST HH'S LEAVE 50-FT COILS
- SPLICE POINT HH'S LEAVE 75-FT COILS



LEGEND	
PROPOSED AUREON HANDHOLE	EXISTING ICN FIBER
PROPOSED AUREON DUCT	PROPOSED ICN DUCT
	PROPOSED ICN HANDHOLE
	TO BE ABANDONED
	RIGHT-OF-WAY

CONSTRUCTION DOCUMENT

PROJECT TITLE		<p>IOWA COMMUNICATIONS NETWORK 400 EAST 14TH STREET GRIMES STATE OFFICE BUILDING DES MOINES, IOWA 50319 ICN © 2021. COPY WITH PERMISSION</p>
1	DRAFT (EXAMPLE)	
2		
3		
4		

MONTGOMERY COUNTY

+05 Prop. Dike
Type "G" Dike
Elev. 1099.70

Extend 42" x 18' RCP
F.L. = Lt. = 1097.92
Rt. = 1091.71
Other = 1091.78 (Type C-1 Collar)

Sta. 482+97.18
Skew 30 LT AH
42"x105.7' RCP
D.A.=22 AC (PLAN) A-H
(Extend)

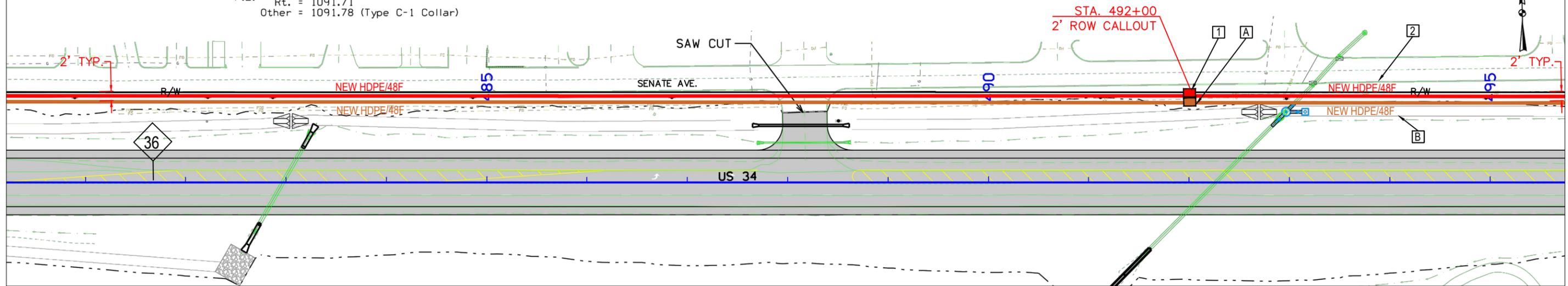
Sta. 488+13.15, 56.58 Lt.
Install 24" x 84' RCP
F.L. = Lt. = 1121.13
Rt. = 1125.73

Sta. 488+17.66, 40.1' LT
18"x80.8' RCP
(Remove)

Red Oak TWP.
T-72N R-38W
SEC. 21

+70 Prop. Dike
Type "G" Dike
Elev. 1145.80

Sta. 493+36.47, 110.67' LT
36"x110' RCP
(U.A.C.)



ICN NOTES:

1. STA. 492+00: PLACE 24x36x30 HANDHOLE WITH LID AT GRADE. (ASSIST HANDHOLE)
2. STA. 492+00 TO 508+00: PLACEMENT OF EASTBOUND HDPE

AUREON NOTES:

- A. STA. 492+00: PLACE 24x36x30 HANDHOLE WITH LID AT GRADE.
- B. STA. 492+00 TO 508+00: PLACEMENT OF EASTBOUND HDPE

*****ICN AND AUREON FACILITIES WILL BE INCORPORATED TOGETHER IN THIS RELOCATE PROJECT BUT WILL BE COMPLETELY SEPARATED WITHIN THEIR OWN FACILITIES.**

CONDUIT NOTES:

- HDPE SHALL BE ORANGE SMOOTH WALL SDR 13.5, MINIMUM 1.25-IN
- **AUREON HDPE – MUST HAVE PULL ROPE INSTALLED END TO END (5200-FT).**
- PLACE 4 TO 5 FEET DEEP IN ALL AREAS & 2-FT FROM NEW ROW
- PULL HDPE INTO HANDHOLES PER TYPICAL DRAWING
- TOTAL ICN HDPE: 5460-FT
- TOTAL AUREON HDPE: 5200-FT

CABLE NOTES:

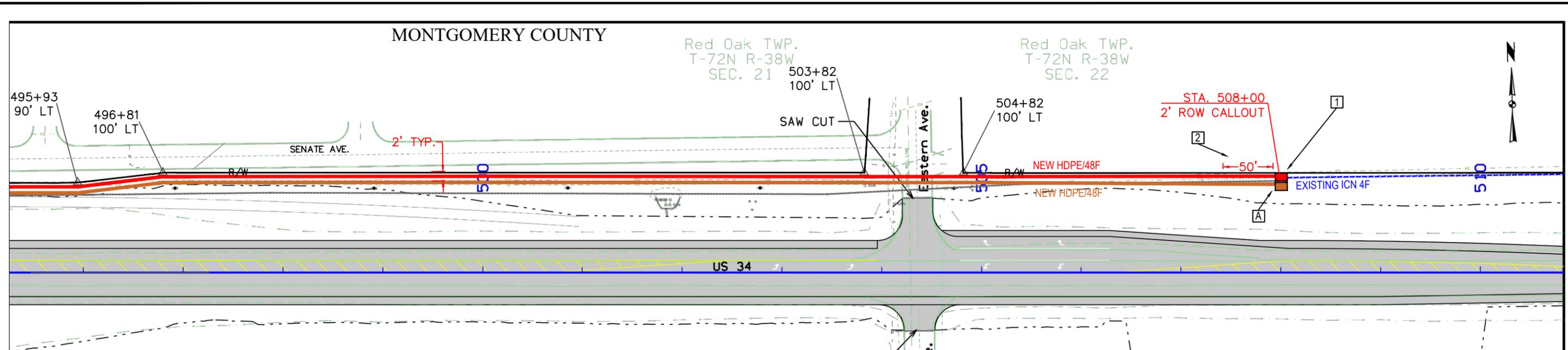
- ICN TOTAL CABLE PULL: 5785-FT INCLUDING SLACK (WESTBOUND-1180-FT & EASTBOUND 4680-FT)
- AUREON TO PULL IN THEIR OWN CABLE
- ASSIST HH'S LEAVE 50-FT COILS
- SPLICE POINT HH'S LEAVE 75-FT COILS



LEGEND	
PROPOSED AUREON HANDHOLE	EXISTING ICN FIBER
PROPOSED AUREON DUCT	PROPOSED ICN DUCT
	PROPOSED ICN HANDHOLE
	TO BE ABANDONED
	RIGHT-OF-WAY

CONSTRUCTION DOCUMENT

PROJECT TITLE		<p>IOWA COMMUNICATIONS NETWORK 400 EAST 14TH STREET GRIMES STATE OFFICE BUILDING DES MOINES, IOWA 50319 ICN © 2021. COPY WITH PERMISSION</p>
1	DRAFT (EXAMPLE)	
2		
3		
4		



ICN NOTES:

1. STA. 508+00: PLACE 24x36x30 HANDHOLE WITH LID AT GRADE. END OF ICN HDPE PLACEMENT. (SPlice POINT)
2. STA. 507+50 TO 508+00: EXPOSE 50-FT OF LIVE ICN CABLE FOR SPLICE TAIL.

AUREON NOTES:

- A. STA. 508+00: PLACE 24x36x30 HANDHOLE WITH LID AT GRADE. END OF AUREON HDPE PLACEMENT.

*****ICN AND AUREON FACILITIES WILL BE INCORPORATED TOGETHER IN THIS RELOCATE PROJECT BUT WILL BE COMPLETELY SEPARATED WITHIN THEIR OWN FACILITIES.**

CONDUIT NOTES:

- HDPE SHALL BE ORANGE SMOOTH WALL SDR 13.5, MINIMUM 1.25-IN
- **AUREON HDPE – MUST HAVE PULL ROPE INSTALLED END TO END (5200-FT).**
- PLACE 4 TO 5 FEET DEEP IN ALL AREAS & 2-FT FROM NEW ROW
- PULL HDPE INTO HANDHOLES PER TYPICAL DRAWING
- TOTAL ICN HDPE: 5460-FT
- TOTAL AUREON HDPE: 5200-FT

CABLE NOTES:

- ICN TOTAL CABLE PULL: 5785-FT INCLUDING SLACK (WESTBOUND-1180-FT & EASTBOUND 4680-FT)
- AUREON TO PULL IN THEIR OWN CABLE
- ASSIST HH'S LEAVE 50-FT COILS
- SPLICE POINT HH'S LEAVE 75-FT COILS



LEGEND	
PROPOSED AUREON HANDHOLE	EXISTING ICN FIBER
PROPOSED AUREON DUCT	PROPOSED ICN DUCT
	PROPOSED ICN HANDHOLE
	TO BE ABANDONED
	RIGHT-OF-WAY

CONSTRUCTION DOCUMENT

PROJECT TITLE		<p>IOWA COMMUNICATIONS NETWORK 400 EAST 14TH STREET GRIMES STATE OFFICE BUILDING DES MOINES, IOWA 50319 ICN © 2021. COPY WITH PERMISSION</p>
1	DRAFT (EXAMPLE)	
2		
3		
4		